

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332098-935

Luminaire Tested: **S123DIW-S340D755U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332098-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D755U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3840.6 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

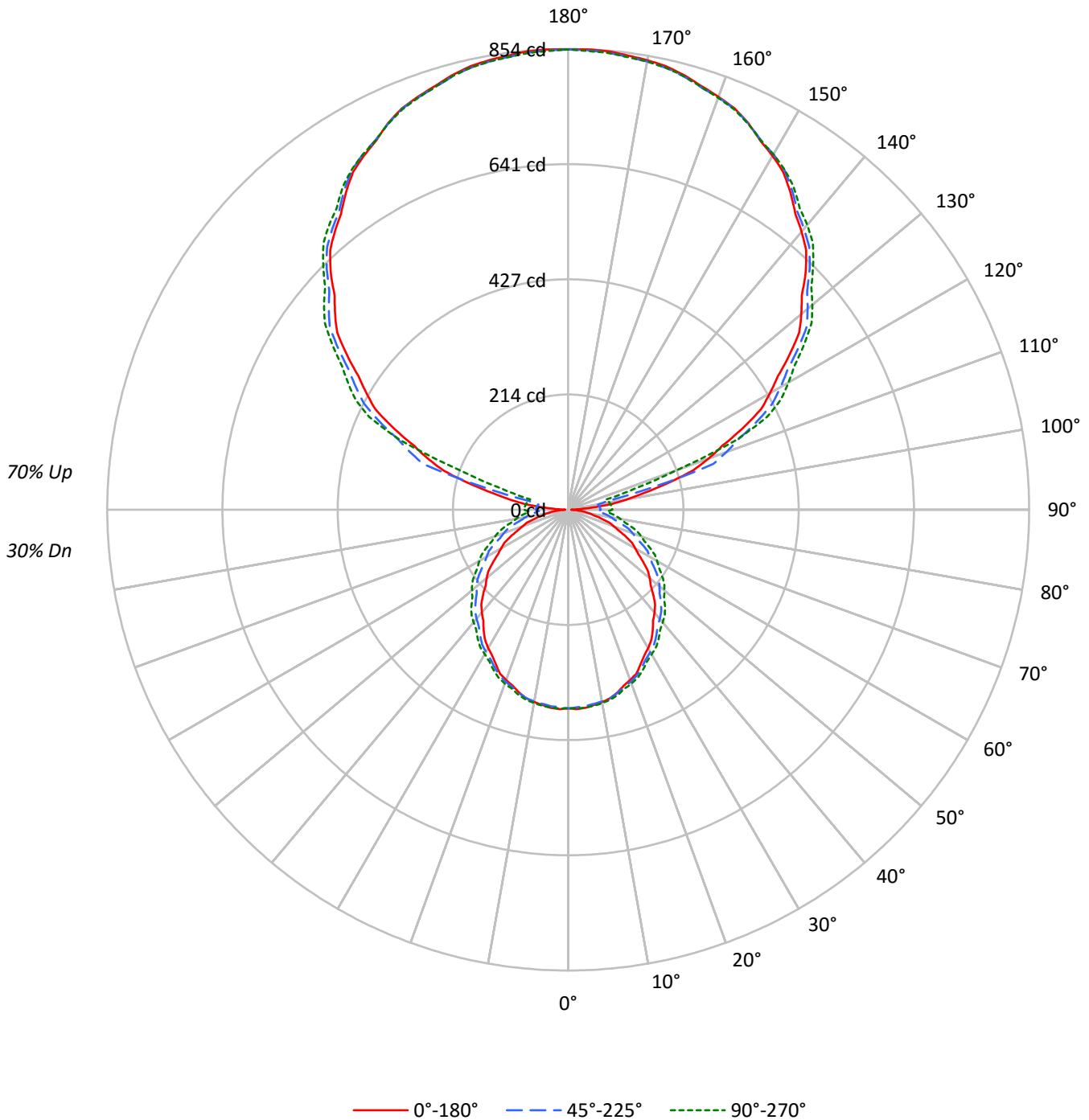
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332098-935

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	88	84	80	83	79	76	73	62	60	58	46	45	43	32	31	30	24
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	0.9
10°-20°	99.5	2.6
20°-30°	148.9	3.9
30°-40°	177.8	4.6
40°-50°	186.0	4.8
50°-60°	174.5	4.5
60°-70°	145.8	3.8
70°-80°	104.3	2.7
80°-90°	64.6	1.7
90°-100°	70.0	1.8
100°-110°	176.5	4.6
110°-120°	374.1	9.7
120°-130°	462.9	12.1
130°-140°	487.8	12.7
140°-150°	452.6	11.8
150°-160°	364.3	9.5
160°-170°	235.1	6.1
170°-180°	81.0	2.1
0°-30°	283.3	7.4
0°-40°	461.0	12.0
0°-60°	821.6	21.4
0°-90°	1136.2	29.6
90°-120°	620.6	16.2
90°-150°	2024.0	52.7
90°-180°	2704.0	70.4
0°-180°	3840.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	6	32	60	76	82	5
95°	43	35	59	76	80	51
105°	192	205	169	74	73	203
115°	356	365	385	400	407	352
125°	500	506	520	529	534	447
135°	622	626	633	641	642	479
145°	718	722	723	727	729	449
155°	790	789	790	792	789	364
165°	833	831	831	835	831	235
175°	853	850	850	854	850	81
180°	853	853	853	853	853	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	10.8	15.5	20.2	25.0	29.7	34.5	39.4	44.3	49.2	54.2	57.3
90°	5.9	11.6	17.4	23.2	28.9	35.0	41.4	47.8	54.2	60.5	64.1
92.5°	16.7	20.2	23.8	27.3	30.8	35.6	41.4	47.3	53.1	59.0	62.9
95°	43.0	40.7	38.5	36.2	33.8	35.7	41.6	47.5	53.5	59.3	63.1
97.5°	81.6	82.1	82.7	83.3	83.8	81.1	75.2	69.1	63.2	57.3	61.0
100°	110.7	116.3	122.0	127.7	133.4	127.3	109.4	91.5	73.7	55.8	59.5
102.5°	143.8	148.4	153.0	157.6	162.2	154.5	134.6	114.6	94.6	74.6	73.7
105°	192.0	195.7	199.4	203.1	206.7	204.2	195.4	186.5	177.7	168.8	146.5
107.5°	242.5	245.6	248.6	251.7	254.7	259.1	264.7	270.4	276.0	281.6	265.7
110°	276.1	278.9	281.5	284.3	287.1	290.9	296.1	301.2	306.3	311.4	309.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.6	310.9	313.2	315.6	317.9	321.5	326.5	331.5	336.5	341.4	343.8
115°	356.2	358.1	360.0	361.9	363.9	367.0	371.5	376.0	380.5	385.0	388.5
117.5°	402.6	404.3	406.0	407.7	409.4	412.1	415.8	419.4	423.1	426.7	430.0
120°	431.2	432.9	434.6	436.3	438.0	440.6	443.9	447.3	450.6	454.0	457.2
122.5°	460.5	461.8	463.1	464.4	465.6	468.0	471.3	474.7	477.9	481.3	484.1
125°	500.5	501.6	502.7	503.9	505.0	507.1	510.2	513.4	516.5	519.7	521.9
127.5°	539.5	540.5	541.6	542.6	543.6	545.5	548.4	551.2	554.1	556.8	559.0
130°	563.8	564.8	565.9	567.0	568.0	569.6	572.0	574.4	576.7	579.0	581.3
132.5°	586.8	587.9	589.0	590.1	591.2	592.7	594.6	596.5	598.4	600.3	602.4
135°	622.3	623.1	623.9	624.6	625.3	626.5	628.0	629.6	631.1	632.7	634.7
137.5°	652.6	653.7	654.7	655.7	656.7	657.6	658.5	659.4	660.2	661.1	663.1
140°	672.6	673.5	674.3	675.2	676.0	676.7	677.4	678.1	678.8	679.5	681.4
142.5°	691.4	692.2	692.9	693.7	694.5	695.1	695.6	696.0	696.5	697.0	698.6
145°	717.6	718.5	719.4	720.3	721.2	721.8	722.0	722.4	722.6	722.9	723.9
147.5°	741.9	742.5	743.2	743.8	744.5	744.9	745.3	745.5	745.8	746.1	746.6
150°	757.2	757.5	757.9	758.4	758.8	759.1	759.5	759.7	760.0	760.3	760.6
152.5°	770.8	771.0	771.2	771.4	771.6	771.8	772.0	772.1	772.3	772.5	772.9
155°	790.1	789.8	789.5	789.2	788.9	788.8	789.0	789.2	789.3	789.5	790.1
157.5°	805.0	805.0	804.9	804.9	804.9	804.9	804.7	804.5	804.4	804.3	805.1
160°	814.2	814.0	813.9	813.7	813.6	813.5	813.3	813.1	813.0	812.9	813.7
162.5°	822.8	822.4	822.0	821.7	821.3	821.0	820.9	820.8	820.6	820.4	821.5
165°	833.2	832.8	832.3	831.9	831.5	831.2	831.0	830.9	830.8	830.6	831.7
167.5°	841.3	840.7	840.2	839.6	839.0	838.7	838.7	838.7	838.7	838.7	839.8
170°	845.8	845.2	844.7	844.1	843.6	843.3	843.3	843.3	843.3	843.3	844.4
172.5°	848.9	848.2	847.5	846.9	846.2	845.8	846.0	846.1	846.2	846.4	847.5
175°	852.8	852.0	851.4	850.7	850.0	849.7	849.8	850.0	850.2	850.2	851.3
177.5°	853.8	853.3	852.6	852.1	851.5	851.4	851.4	851.5	851.7	851.8	852.6
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	60.4	63.5	66.7	68.8	69.7	70.7	71.6	72.6
90°	67.8	71.3	74.9	77.3	78.4	79.6	80.8	82.0
92.5°	66.7	70.6	74.4	76.9	77.8	78.9	79.8	80.8
95°	66.8	70.6	74.4	76.7	77.6	78.4	79.4	80.2
97.5°	64.8	68.6	72.3	74.7	75.8	76.8	77.8	78.9
100°	63.2	67.0	70.7	73.0	74.0	75.1	76.1	77.1
102.5°	72.7	71.7	70.8	70.9	72.0	73.1	74.3	75.4
105°	124.0	101.6	79.1	68.4	69.6	70.6	71.7	72.8
107.5°	249.9	233.9	218.1	201.1	183.1	165.1	147.1	129.2
110°	306.8	304.4	302.1	291.2	271.8	252.4	233.0	213.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.1	348.4	350.8	350.2	346.7	343.3	339.8	336.3
115°	392.0	395.5	399.2	401.6	402.8	404.1	405.4	406.7
117.5°	433.3	436.4	439.7	441.8	442.6	443.3	444.2	445.0
120°	460.4	463.6	466.7	468.6	469.2	469.8	470.5	471.1
122.5°	486.8	489.6	492.4	494.1	494.9	495.6	496.4	497.1
125°	524.0	526.2	528.3	529.9	530.7	531.7	532.5	533.5
127.5°	561.3	563.4	565.7	567.0	567.3	567.6	567.9	568.3
130°	583.6	585.8	588.1	589.4	589.6	589.9	590.1	590.3
132.5°	604.6	606.8	609.0	610.2	610.4	610.6	610.8	611.1
135°	636.7	638.8	640.8	641.8	641.9	641.9	641.9	641.9
137.5°	665.2	667.3	669.3	670.5	670.6	670.8	671.0	671.1
140°	683.3	685.3	687.2	688.2	688.4	688.5	688.6	688.8
142.5°	700.3	702.0	703.6	704.5	704.5	704.6	704.6	704.6
145°	724.9	725.9	726.9	727.5	727.9	728.3	728.7	729.0
147.5°	747.1	747.6	748.1	748.1	747.9	747.5	747.2	746.8
150°	760.9	761.1	761.4	761.5	761.2	761.0	760.7	760.4
152.5°	773.4	774.0	774.5	774.5	773.8	773.2	772.6	772.0
155°	790.8	791.5	792.3	792.2	791.3	790.5	789.6	788.8
157.5°	806.0	806.8	807.6	807.5	806.4	805.3	804.3	803.1
160°	814.6	815.5	816.2	816.2	815.2	814.2	813.2	812.3
162.5°	822.4	823.4	824.3	824.3	823.5	822.6	821.7	820.9
165°	832.8	834.0	835.1	835.2	834.2	833.2	832.2	831.2
167.5°	840.9	842.1	843.3	843.3	842.1	840.9	839.8	838.7
170°	845.5	846.7	847.8	847.8	846.7	845.5	844.4	843.3
172.5°	848.6	849.7	850.8	850.8	849.5	848.3	847.1	845.8
175°	852.2	853.3	854.2	854.1	853.0	851.9	850.8	849.6
177.5°	853.6	854.5	855.4	855.2	854.1	853.0	851.9	850.8
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8

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